



SEQUENCE LISTING

<110> TABOR, STANLEY
RICHARDSON, CHARLES

<120> ISOTHERMAL AMPLIFICATION OF DNA

<130> 048331-1707

<140> 10/813,693

<141> 2003-11-07

<150> 09/480,878

<151> 2000-01-10

<150> 60/115,498

<151> 1999-01-11

<160> 6

<170> PatentIn Ver. 3.3

<210> 1

<211> 8970

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Bacteriophage
PGP 4A/E1

<400> 1

atggacaatt	cgcacgattc	cgatagtgtg	tttctttacc	acattccttg	tgacaactgt	60
gggagtagtg	atgggaactc	gctgttctct	gacggacaca	cgttctgcta	cgtatgcbag	120
aagtggactg	ctggtaatga	agacactaaa	gagagggctt	caaaacggaa	accctccggc	180
ggaaagcccg	ggacttacaa	cgtgtggaac	ttcgggggat	ccaatggacg	ctactccgcg	240
ttactgcbg	gaggaatctc	caaggaaacc	tgtcagaagg	ctggctactg	gattgccaaa	300
gtagacgggtg	tgatgtacca	agtggctgac	tatcgggacc	agaacggcaa	cattgtgagt	360
cagaagggtc	gagataaaga	taagaacttt	aagaccactg	gtagtcacaa	gagtgacgct	420
ctgttcggga	agcacttggt	gaatgggtgt	aagaagattg	tcgttacaga	aggtgaaatc	480
gacatgctta	ccgtgatgga	acttcaagac	tgtaagtata	ctgtagtgtc	gttgggtcac	540
ggtgcctctg	ccgctaagaa	gacatgcgct	gccaactacg	aatactttga	ccagttcgaa	600
cagattatct	taatgttcga	tatggacgaa	gcagggcgca	aagcagtcga	agaggctgca	660
caggttctac	ctgctggtaa	ggtacgagtg	gcagttcttc	cgtgtaagga	tgcaaacgag	720
tgtcacctaa	atggtcacga	ccgtgaaatc	atggagcaag	tgtggaatgc	tggtccttgg	780
attcctgatg	gtgtgggtatc	ggctctttcg	ttacgtgaac	gaatccgtga	gcacctatcg	840
tccgaggaat	cagtaggttt	acttttcagt	ggctgcactg	gtatcaacga	taagacctta	900
ggtgcccggtg	gtggtgaagt	cattatggct	acttccggtt	ccggtatggg	taagtcaacg	960
ttcgtccgctc	aacaagctct	acaatggggc	acagcgaatg	gcaagaaggt	aggcttagcg	1020
atgcttgagg	agtcggttga	ggagaccgct	gaggacctta	taggtctaca	caaccgtgtc	1080
cgactgagac	aatccgactc	actaaagaga	gagattattg	agaacggtaa	gttcgaccaa	1140
tggttcgatg	aactgttcgg	caacgatacg	ttccatctat	atgactcatt	cgccgaggct	1200
gagacggata	gactgctcgc	taagctggcc	tacatgcgct	caggcttggg	ctgtgacgta	1260
atcattctag	accacatctc	aatcgtcgtg	tccgcttctg	gtgaatccga	tgagcgtaa	1320
atgattgaca	acctgatgac	caagctcaaa	gggttcgcta	agtcaactgg	ggtgggtgctg	1380
gtcgtaatat	gtcaccttaa	gaaccagac	aaaggtaaag	cacatgagga	aggtcgcccc	1440
gtttctatta	ctgacctacg	tggttctggc	gcactacgcc	aactatctga	tactattatt	1500
gcccttgagc	gtaatcagca	aggcgatatg	cctaaccctg	tcctcgttcg	tattctcaag	1560

tgccgcttta	ctggtgatac	tggtatcgct	ggctacatgg	aatacaacaa	ggaaaccgga	1620
tggcttgaac	catcaagtta	ctcaggggaa	gaagagtcac	actcagagtc	aacagactgg	1680
tccaacgaca	ctgacttctg	acaggattct	tgatgacttt	ccagacgact	acgagaagtt	1740
tcgctggaga	gtccccattct	aatacgcactc	actaaaggag	acacaccatg	ttcaaactga	1800
ttaagaagtt	aggccaactg	ctggttcgta	tgtacaacgt	ggaagccaag	cgactgaacg	1860
atgaggctcg	taaagaggcc	acacagtcac	gcgctctggc	gattcgctcc	aaaactgggt	1920
ttgcgcttac	cccaaccaac	aggggatttg	ctgctttcca	ttgagcctgt	ttctctgcgc	1980
gacgttcgcg	gcggcgtggt	tgtgcatcca	tctggattct	cctgtcagtt	agctttgggtg	2040
gtgtgtggca	gttgtagtcc	tgaacgaaaa	ccccccgcga	ttggcacatt	ggcagctaatt	2100
ccggaatcgc	acttacggcc	aatgcttcgt	ttcgtatcac	acaccccaaa	gcctttctgct	2160
ttgaatcgtg	cccttcttca	gggcttaatt	tttaagagcg	tcaccttcat	ggtggtcagt	2220
gcgtccctgct	gatgtgctca	gtatcacccg	cagtgggtatt	tatgtcaaca	ccgccagaga	2280
taattttatca	ccgcagatgg	ttatctgtat	gtttttttata	tgaattttatt	ttttgcaggg	2340
gggcattggt	tgtaggtga	gagatccggc	tgctaacaaa	gcccgaagg	aagctgagtt	2400
ggctgctgcc	accgctgagc	aataactagc	ataacccctt	ggggcctcta	aacgggtctt	2460
gaggggtttt	ttgctgaaa	gaggaactat	atccggatat	cccgcgaag	gcccggcagt	2520
accggcataa	ccaagcctat	gcctacagca	tccaggggtga	cggtgccgag	gatgacgatg	2580
agcgcattgt	tagatttcat	acacgggtgc	tgactcggtt	agcaatttaa	ctgtgataaa	2640
ctaccgcatt	aaagcttgcg	gccgcactcg	acgaaccctt	cggatctcga	tcccgcgaaa	2700
ttaatacgac	tcactatagg	gagaccacaa	cggtttccct	ctagaaataa	ttttgtttaa	2760
ctttaagaag	gagatataca	tatgcgtgaa	cgaatccgtg	agcacctatc	gtccgaggaa	2820
tcagtaggtt	tactttttcag	tggtgcact	ggatatcaacg	ataagacctt	aggtgcccgt	2880
ggtggtgaag	tcattatggt	cacttccggt	tccggtatgg	gtaagtcaac	gttcgtccgt	2940
caacaagctc	tacaatgggg	cacagcgatg	ggcaagaagg	taggcttagc	gatgcttgag	3000
gagtccgttg	aggagaccgc	tgaggacctt	ataggtctac	acaaccgtgt	ccgactgaga	3060
caatccgact	cactaaagag	agagattatt	gagaacggta	agttcgacca	atggttcgat	3120
gaactgttcg	gcaacgatac	gttccatcta	tatgactcat	tcgccgaggc	tgagacggat	3180
agactgctcg	ctaagctggc	ctacatgcgc	tcagggttgg	gctgtgacgt	aatcattcta	3240
gaccacatct	caatcgtcgt	atccgcttct	ggtgaattccg	atgagcgtaa	gatgattgac	3300
aacctgatga	ccaagctcaa	agggttcgct	aggtcaactg	gggtggtgct	ggtcgttaatt	3360
tgtcacctta	agaaccacga	caaaggtaaa	gcacatgagg	aaggctcgccc	cgtttctatt	3420
actgacctac	gtggttctgg	cgcactacgc	caactatctg	atactattat	tgcccttgag	3480
cgtaatcagc	aaggcgatat	gcctaaccctt	gtcctcgttc	gtatttctcaa	gtgccgcttt	3540
actggtgata	ctggtatcgc	tggtacatg	gaatacaaca	aggaaaccgg	atggcttgaa	3600
ccatcaagtt	actcagggga	agaagagtca	cactcagagt	caacagactg	gtccaacgac	3660
actgacttct	gaggatccac	tagtaacggc	cgccagtggtg	ctggaattct	gcagataacc	3720
atcacactgg	cggccgctcg	agcaccacca	ccaccaccac	tgagatccgg	ctgctaacaa	3780
agcccgaag	gaagctgagt	tggtgctgct	caccgctgag	caataactag	cataaccctt	3840
tggggcctct	aaacgggtct	tgaggggttt	tttgcgtgaaa	ggaggaacta	tatccggatt	3900
ggcgaatggg	acgcgccttg	tagcggcgca	ttaagcgcg	cgggtgtggt	ggttacgcgc	3960
agcgtgaccg	ctacacttgc	cagcgcctta	gcgcgcctc	ctttcgcttt	cttcccttcc	4020
tttctcgcca	cgttcgccgg	ctttccccgt	caagctctaa	atcgggggct	ccctttaggg	4080
ttccgattta	gtgctttacg	gcacctcgac	ccccaaaaac	ttgattaggg	tgatggttca	4140
cgtagtgggc	catcgccctg	atagacggtt	tttcgccctt	tgacgttgga	gtccacgttc	4200
tttaatatg	gactcttgtt	ccaaactgga	acaacactca	accctatctc	ggtctattct	4260
tttgatttat	aagggatttt	gccgatttctg	gcctattggt	taaaaaatga	gctgatttaa	4320
caaaaattta	acgcgaattt	taacaaaata	ttaacgttta	caatttcagg	tggcactttt	4380
cggggaaatg	tgcgcggaac	ccctatttgt	ttatttttct	aaatacattc	aaatatgtat	4440
ccgctcatga	attaattctt	agaaaaactc	atcgagcatc	aaatgaaact	gcaattttatt	4500
catatcagga	ttatcaatac	catatttttg	aaaaagccgt	ttctgtaatg	aaggagaaaa	4560
ctcaccgagg	cagttccata	ggatggcaag	atcctggtat	cggctctgcga	ttccgactcg	4620
tccaacatca	atacaacctt	ttatatttccc	ctcgtcaaaa	ataaggttat	caagtgagaa	4680
atcaccatga	gtgacgactg	aatccgggtga	gaatggcaaa	agtttatgca	tttctttcca	4740
gacttggtca	acagcgctc	cattacgctc	gtcatcaaaa	tcactcgcat	caaccaaac	4800
gttattcatt	cgtgattgcg	cctgagcgag	acgaaatacg	cgatcgctgt	taaaaggaca	4860
attacaaaca	ggaatcgaat	gcaaccggcg	caggaacact	gccagcgcat	caacaatatt	4920
ttcacctgaa	tcaggatatt	cttctaatac	ctggaatgct	gttttcccgg	ggatcgcagt	4980
ggtgagtaac	catgcatcat	caggagtacg	gataaaatgc	ttgatggctg	gaagaggcat	5040

aaattccgctc	agccagtttta	gtctgaccat	ctcatctgta	acatcattgg	caacgctacc	5100
tttgccatgt	ttcagaaaca	actctggcgc	atcgggcttc	ccatacaatc	gatagattgt	5160
cgcacctgat	tgcccgcacat	tatcgcgagc	ccatttatac	ccatataaat	cagcatccat	5220
gttggaattt	aatcgcggcc	tagagcaaga	cgtttcccg	tgaatatggc	tcataacacc	5280
ccttgattta	ctgtttatgt	aagcagacag	ttttattggt	catgaccaaa	atcccttaac	5340
gtgagttttc	gttccactga	gcgtcagacc	ccgtagaaaa	gatcaaagga	tcttcttgag	5400
atcctttttt	tctgcgcgta	atctgctgct	tgcaaacaaa	aaaaccaccg	ctaccagcgg	5460
tggtttgttt	gccggatcaa	gagctaccaa	ctctttttcc	gaaggtaact	ggcttcagca	5520
gagcgcagat	accaaatact	gtcctttctag	tgtagccgta	gttaggccac	cacttcaaga	5580
actctgtagc	accgcctaca	tacctcgctc	tgctaatcct	gttaccagtg	gctgctgcca	5640
gtggcgataa	gtcgtgtctt	accgggttgg	actcaagacg	atagttaccg	gataaggcgc	5700
agcggtcggg	ctgaacgggg	ggttcgtgca	cacagcccag	cttgaggcga	acgacctaca	5760
ccgaactgag	atacctacag	cgtgagctat	gagaaagcgc	cacgcttccc	gaaggagaga	5820
aggcggacag	gtatccggta	agcggcaggg	tcggaacagg	agagcgcacg	agggagcttc	5880
cagggggaaa	cgcttggtat	ctttatagtc	ctgtcggggt	tcgccacctc	tgacttgagc	5940
gtcgattttt	gtgatgctcg	tcaggggggc	ggagcctatg	gaaaaacgcc	agcaacgcgg	6000
cctttttacg	gttcctggcc	ttttgctggc	cttttgctca	catgttcttt	cctgcgttat	6060
cccctgattc	tgtggataac	cgtattaccg	cctttgagtg	agctgatacc	gctcgcgcga	6120
gccgaacgac	cgagcgcagc	gagtcagtga	gcgaggaagc	ggaagagcgc	ctgatgcggt	6180
atcttctcct	tacgcatctg	tgcggtatct	cacaccgcac	atatggtgca	ctctcagtac	6240
aatctgctct	gatgcgcgat	agttaagcca	gtatacactc	cgctatcgct	acgtgactgg	6300
gtcattggctg	cgccccgaca	cccgcaca	cccgtgacg	cgccctgacg	ggcttgctcg	6360
ctcccgcat	ccgcttacag	acaagctgtg	accgtctccg	ggagctgcat	gtgtcagagg	6420
ttttcacccg	catcaccgaa	acgcgcgagg	cagctgcggt	aaagctcatc	agcgtggctg	6480
tgaagcgatt	cacagatgtc	tgctgttca	tcgcgctcca	gctcgttgag	tttctccaga	6540
agcggttaatg	tctggcttct	gataaagcgg	gccatgttaa	gggcgggttt	ttcctgtttg	6600
gtcactgatg	cctccgtgta	agggggatct	ctgttcatgg	gggtaatgat	accgatgaaa	6660
cgagagagga	tgctcacgat	acgggttact	gatgatgaac	atgcccggtt	actggaacgt	6720
tgtgagggtg	aacaactggc	ggtagtgatg	cggcgggacc	agagaaaaat	cactcaggtg	6780
caatgccagc	gcttcgttaa	tacagatgta	ggtgttccac	agggtagcca	gcagcatcct	6840
gcgatgcaga	tcgggaacat	aatggtgcag	ggcgctgact	tcgcggttcc	cagactttac	6900
gaaacacgga	aaccgaagac	cattcatgtt	gttgctcagg	tcgcagacgt	tttgagcag	6960
cagtcgcttc	acgttcgctc	gcgtatcggt	gattcattct	gctaaccagt	aaggcaaccc	7020
cgccagccta	gccgggtcct	caacgcacgg	agcacgatca	tgccgacccg	tggggccgcc	7080
atgccggcga	taattggcctg	cttctcgccg	aaacgtttgg	tgccgggacc	agtgcagga	7140
gcttgagcga	gggcgtgcaa	gattccgaat	accgcaagcg	acaggccgat	catcgtcgcg	7200
ctccagcgaa	agcggtcctc	gccgaaaatg	accagagcgc	ctgccggcac	ctgtcctacg	7260
agttgcatga	taaagaagac	agtcataagt	gcggcgacga	tagtcatgcc	ccgcgcccac	7320
cggaaggagc	tgactgggtt	gaaggctctc	aagggcacgc	gtcgagatcc	cggtgcctaa	7380
tgagtgaact	aacttacatt	aattgcgttg	cgctcactgc	ccgctttcca	gtcgggaaac	7440
ctgtcgtgcc	agctgcatta	atgaatcggc	caacgcgcgc	ggagaggcgg	tttgctgatt	7500
gggcgccagg	gtggtttttc	ttttaccagg	tgagacgggc	aacagctgat	tgcccttcac	7560
cgcttgcccc	tgagagagtt	gcagcaagcg	gtccacgctg	gtttgcccc	gcaggcgaaa	7620
atcctgtttg	atggtggtta	acggcgggat	ataacatgag	ctgtcttcgg	tatcgtcgta	7680
tcctactacc	gagatatccg	caccaacgcg	cagcccggac	tcggtaatgg	cgcgcatctg	7740
gcccagcgcc	atctgatcgt	tggaaccag	catcgcagtg	ggaacgatgc	cctcattcag	7800
catttgcatg	gtttgttgaa	aaccggacat	ggcactccag	tcgccttccc	gttcgcgtat	7860
cggctgaatt	tgattgcgag	tgagatatct	atgccagcca	gccagacgca	gacgcgccga	7920
gacagaactt	aatgggcccc	ctaacagcgc	gatttgctgg	tgacccaatg	cgaccagatg	7980
ctccacgccc	agtcgcgtac	cgtcttcatg	ggagaaaata	atactgttga	tggtgtctg	8040
gtcagagaca	tcaagaaata	acgccggaac	attagtgcag	gcagcttcca	cagcaatggc	8100
atcctggtca	tcagcgggat	agttaatgat	cagcccactg	acgcgttgcg	cgagaagatt	8160
gtgcaccgcc	gttttacagg	cttcgacgcc	gcttcgttct	accatcgaca	ccaccacgct	8220
ggcaccagct	tgattccgcg	gagatttaac	cgccgcgaca	atttgcgacg	gcgcgtgcag	8280
ggccagactg	gaggtggcaa	cgccaatcag	caacgactgt	ttgcccgcca	gttggtgtgc	8340
cacgcgggtg	ggaatgtaat	tcagctccgc	catcgccgct	tccacttttt	cccgcgtttt	8400
cgcagaaacg	tggctggcct	ggttcaccac	gcgggaaacg	gtctgataag	agacaccggc	8460
atactctgcg	acatcgata	acgttactgg	tttcacattc	accaccctga	attgactctc	8520

```

ttccggggcgc tatcatgcc a taccgcgaaa ggtttttgcgc cattcgatgg tgtccgggat 8580
ctcgacgctc tcccttatgc gactcctgca ttaggaagca gcccagtagt aggttgaggc 8640
cgttgagcac cgccgccgca aggaatggtg catgcaagga gatggcgccc aacagtcccc 8700
cggccacggg gcctgccacc ataccacgc cgaacaagc gctcatgagc ccgaagtggc 8760
gagcccgatc ttcccatcg gtgatgtcgg cgatataggc gccagcaacc gcacctgtgg 8820
cgccggtgat gccggccacg atgcgtccgg cgtagaggat cgagatctcg atcccgcgaa 8880
attaatacga ctactatag gggaattgtg agcggataac aattcccctc tagaaataat 8940
tttgtttaac ttaagaagg agatatacat                                     8970

```

```

<210> 2
<211> 19
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide

```

```

<400> 2
cgcggtacac cgacgtcaa                                     19

```

```

<210> 3
<211> 19
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide

```

```

<400> 3
cgcggtacac cgacttaat                                     19

```

```

<210> 4
<211> 10
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide

```

```

<400> 4
gtcgggtgtac                                             10

```

```

<210> 5
<211> 23
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide

```

<400> 5
taatacgact cactataggg cga

23

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 6
catacgattt aggtgacact atag

24